

Claims

- [c1] An interior cabin configuration determination system comprising:
 - a plurality of objects selected from a plurality of monuments and a plurality of passenger service units within an interior cabin and comprising a plurality of card readers;
 - a plurality of object controllers coupled to said plurality of card readers and determining position of said plurality of objects in response to position information on a plurality of cards; and
 - a remotely located controller determining a configuration of said plurality of objects in response to said position information.
- [c2] A system as in claim 1 wherein said plurality of cards comprise seat position information in a visual format.
- [c3] A system as in claim 1 wherein said plurality of card readers comprise a backlit visual display for displaying said position information.
- [c4] A system as in claim 1 wherein said plurality of cards comprise said position information in an encrypted for-

mat, said plurality of card readers deciphering said encrypted format to determine position of said plurality of monuments.

- [c5] A system as in claim 1 further comprising:
 - a main transceiver transmitting an object information request signal; and
 - at least one object transceiver coupled to said plurality of card readers and transmitting at least one object information signal to said remotely located controller.
- [c6] A system as in claim 5 wherein said at least one object information signal comprises object information selected from at least one of IP address, row number, column number, seat number, seat grouping type, airplane zone, and bulkhead information.
- [c7] A system as in claim 1 wherein said plurality of object controllers are in wireless communication with said remotely located controller.
- [c8] A system as in claim 1 wherein said remotely located controller is a line replaceable unit.
- [c9] An interior cabin configuration determination system comprising:
 - a plurality of receivers coupled to a plurality of objects selected from a plurality of monuments and a plurality of

passenger service units;
a plurality of transmitters directed at said plurality of receivers and transmitting object information signals; and
a controller remotely located from and wirelessly coupled to said plurality of receivers and said plurality of transmitters, said controller determining a configuration of said plurality of objects in an interior cabin in response to said object information signals.

- [c10] A system as in claim 9 wherein said plurality of receivers and said plurality of transmitters are arranged in columns.
- [c11] A system as in claim 10 wherein said plurality of receivers are in a position alternating arrangement with said plurality of transmitters.
- [c12] A system as in claim 10 wherein said plurality of receivers are directed approximately 180° from a directed angle of said plurality of transmitters.
- [c13] A system as in claim 10 wherein said plurality of receivers are in-line with said plurality of transmitters in said columns.
- [c14] A system as in claim 9 further comprising at least one database, said controller storing object information in response to said object information signals.

- [c15] A system as in claim 9 wherein said plurality of receivers and said plurality of transmitters comprise:
 - at least one infrared receiver; and
 - at least one infrared transmitter.
- [c16] A system as in claim 9 wherein said plurality of receivers and said plurality of transmitters comprise:
 - at least one ultrasonic receiver; and
 - at least one ultrasonic transmitter.
- [c17] A system as in claim 9 further comprising:
 - a plurality of radio frequency transceivers comprising;
 - a first transceiver coupled to at least one of said plurality of objects; and
 - a second transceiver coupled to said controller;
 - said first transceiver transmitting object information to said second transceiver.
- [c18] A system as in claim 9 wherein each of said plurality of objects comprises:
 - an object receiver directed at a forward adjacent transmitter; and
 - an object transmitter directed at a rearward adjacent receiver.
- [c19] An interior cabin configuration determination system comprising:

at least one transmitter transmitting at least one position determinative signal across a plurality of objects selected from a plurality of monuments and a plurality of passenger service units;

a plurality of receivers coupled to said plurality of objects and generating an indication signal in response to said at least one position determinative signal; and
a controller remotely located from and in communication with said plurality of receivers, said controller determining position of said plurality of objects in response to said indication signal.

- [c20] A system as in claim 19 wherein said controller generates said at least one position determinative signal.
- [c21] A system as in claim 19 wherein said controller is in wireless communication with said plurality of receivers.
- [c22] A system as in claim 19 wherein said controller determines absolute position of said plurality of objects.
- [c23] A system as in claim 19 wherein said at least one transmitter comprises a plurality of lights positioned at known intervals along said plurality of objects and generates an illumination signal.
- [c24] A system as in claim 23 wherein said controller determines absolute position of said plurality of objects in re-

sponse to timing of said at least one position determinative signal and said indication signal and known positions of said plurality of lights.

- [c25] A system as in claim 23 wherein said plurality of lights extend along the interior cabin, said controller stores position information of said plurality of lights in association with position information of interior cabin amenities.
- [c26] A system as in claim 24 wherein said interior cabin amenities comprise at least one of a reading light, an air conditioning control, a call button, an oxygen supply device, and an overhead compartment.
- [c27] A system as in claim 23 wherein said plurality of lights comprise at least one of a light strip, an LED, a light bulb, a mood light, and a light guide.
- [c28] A system as in claim 19 wherein said at least one transmitter comprises at least two transmitters selected from a plurality of radio wave interference transmitters and a plurality of sound wave transmitters, said plurality of receivers detecting a resultant signal in response to said at least one position determinative signal.
- [c29] A system as in claim 19 wherein said controller determines position of said plurality of objects in response to

said resultant signal.

- [c30] A system as in claim 19 wherein said controller determines position of said plurality of objects in response to a known interference pattern of said at least one position determinative signal.
- [c31] An aircraft interior cabin configuration determination system comprising:
 - a hand-held device identifying and determining position of a plurality of selected from a plurality of monuments and a plurality of passenger service units within a vehicle interior cabin and generating an object position signal; and
 - a remotely located controller determining a configuration of said plurality of objects and storing said determined positions of said plurality of objects in response to said object position signal.
- [c32] A system as in claim 31 further comprising:
 - at least one transmitter transmitting at least one position determinative signal across a plurality of objects; and
 - a hand-held circuit determining position of said hand-held device in response to said at least one position determinative signal.
- [c33] A system as in claim 31 wherein said controller gener-

ates said at least one position determinative signal.

- [c34] A system as in claim 31 further comprising a hand-held circuit determining position of said hand-held device via at least one device selected from a global positioning unit, a radio frequency interference receiver, a laser range finding unit, and a distance measuring wheel.
- [c35] An interior cabin configuration determination system comprising:
 - a plurality of selected from a plurality of monuments and a plurality of passenger service units daisy-chained via a plurality of power lines;
 - a plurality of object controllers coupled to each of said objects and determining position of said plurality of objects in response to length detection of said plurality of power lines; and
 - a remotely located main controller in communication with said plurality of object controllers and determining a configuration of said plurality of objects in response to said determined positions.
- [c36] A system as in claim 35 wherein said remotely located main controller receives said determined positions over said plurality of power lines.
- [c37] A system as in claim 35 wherein each of said plurality of

objects receives power and position information from an adjacent preceding controller.

- [c38] A system as in claim 35 wherein each of said plurality of objects comprises a filter for passage of said determined positions to said plurality of object controllers.
- [c39] A method of determining an interior cabin configuration of a plurality of objects comprising:
 - identifying the plurality of objects;
 - wirelessly determining positions of the plurality of objects via at least one object controller; and
 - determining the interior cabin configuration in response to the determined positions via a remotely located controller.
- [c40] A method as in claim 39 further comprising:
 - altering said interior cabin configuration; and
 - determining an updated configuration via said remotely located controller.